

IN THE CLAIMS:

The following listing of the claims replaces all earlier listings and all earlier versions.

1. - 123. (Canceled)

124. (Currently Amended) An outline forming apparatus, comprising:

M⁽
a storage medium for storing information for a plurality of outline points of a pattern, wherein the information for each of the outline points includes ~~coordinate values of the outline point, a plurality of~~ a coordinate value and vector data ~~corresponding to a plurality of weight value ranges, each of the vector data~~ for indicating a movement track of the outline point according to a change of a weight value ~~within a corresponding weight value range, and a weight value at which the vector data change~~ the movement track changes, the coordinate value and the vector data exist for each movement tracks, and the weight value indicates the thickness of the pattern in the same font size;

an acquiring unit, arranged for acquiring ~~a vector datum~~ the coordinate value and the vector data corresponding to an input weight value from said storage medium based on the weight value at which the vector data change, for each outline point; and

a calculation unit, ~~arranged for calculating~~ adapted to calculate coordinate data of each outline point of a pattern to be output, based on the input weight value, the coordinate data and the vector data acquired by said acquiring unit.

125. (Previously Presented) The apparatus according to claim 124, further comprising a sending unit for sending the coordinate data calculated by said calculation unit.

126. (Previously Presented) The apparatus according to claim 124, wherein the pattern is a character pattern.

127. (Cancelled)

N¹
128. (Previously Presented) The apparatus according to claim 124, wherein the plurality of vector data includes vector data indicating a straight line and vector data indicating a curve of second or higher degree.

129. (Currently Amended) The apparatus according to claim 124, further comprising an output unit ~~for outputting~~ adapted to output a pattern formed based on the coordinate data calculated by said calculation unit.

130. (Previously Presented) The apparatus according to claim 129, wherein said output unit includes a printer.

131. (Previously Presented) The apparatus according to claim 124, wherein said calculation unit operates on vector data.

132. (Previously Presented) The apparatus according to claim 124, wherein said storage unit stores degree information indicating degree of a function of vector data.

133. (Previously Presented) The apparatus according to claim 129, wherein said degree information includes an information indicating that coordinate data is constant regardless of the change of weight value.

N¹
134. (Currently Amended) An outline forming method comprising the steps of:

accessing a memory which stores information for a plurality of outline points of a pattern, wherein the information for each of the outline points includes a coordinate values of the outline point, a plurality of value and vector data ~~corresponding to a plurality of weight value ranges, each of the vector data~~ for indicating a movement track of the outline point according to a change of a weight value ~~within a corresponding weight value range,~~ and a weight value at which the ~~vector data change~~ the movement track changes, the coordinate value and the vector data exist for each movement tracks, and the weight value indicates the thickness of the pattern in the same font size;

acquiring ~~a vector datum~~ the coordinate value and the vector data corresponding to an input weight value based on the weight value at which the vector data change, for each outline point, by accessing the memory; and

calculating coordinate data of each outline point of a pattern to be output, based on the input weight value, the coordinate value and the vector data acquired in the acquiring step.

135. (Currently Amended) A computer program product having a computer readable medium comprising a computer program for forming an outline, the computer program comprising code for performing the steps of:

storing information for a plurality of outline points of a pattern, wherein the information for each of the outline points includes a coordinate value of the outline point, a plurality of value and vector data corresponding to a plurality of weight value ranges, each of the vector data for indicating a movement track of the outline point according to a change of a weight value within a corresponding weight value range, and a weight value at which the vector data change the movement track changes, the coordinate value and the vector data exist for each movement tracks, and the weight value indicates the thickness of the pattern in the same font size;

acquiring ~~a vector datum~~ the coordinate value and the vector data corresponding to an input weight value based on the weight value at which the vector data change, for each outline point, by accessing the memory; and

calculating coordinate data of each outline point of a pattern to be output, based on the input weight value, the coordinate value and the vector data acquired in the acquiring step.

136. (Currently Amended) A computer readable medium comprising a computer program for forming an outline, the computer program comprising code for performing the steps of:

N¹ storing information for a plurality of outline points of a pattern, wherein the information for each of the outline points includes a coordinate value of the outline point;
a plurality of value and vector data corresponding to a plurality of weight value ranges;
each of the vector data for indicating a movement track of the outline point according to a change of a weight value ~~within a corresponding weight value range~~, and a weight value at which the ~~vector data change~~ the movement track changes, the coordinate value and the vector data exist for each movement tracks, and the weight value indicates the thickness of the pattern in the same font size;

acquiring ~~a vector datum~~ the coordinate value and the vector data corresponding to an input weight value based on the weight value at which the vector data change, for each outline point, by accessing the memory; and

calculating coordinate data of each outline point of a pattern to be output, based on the input weight value, the coordinate value and the vector data acquired in the acquiring step.
